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World Forum for Harmonization of Vehicle Regulations

Working Party on Passive Safety

Fifty-seventh session
Geneva, 18-22 May 2015
Item 8 of the provisional agenda
Regulation No. 17 (Strength of seats)

Proposal for Supplement 4 to the 08 series of amendments to Regulation No. 17 (Strength of seats)

Submitted by the expert from the Netherlands *

The text reproduced below was prepared by the expert from the Netherlands, allowing a more forward displacement of the restrained occupants in the fitment of new safety-belts equipped with load limiter devices. It is based on an informal document without symbol (GRSP 56-07), distributed during the fifty-sixth session of the Working Party on Passive Safety (GRSP). The modifications to the current text of the UN Regulation are marked in bold for new or strikethrough for deleted characters.

* In accordance with the programme of work of the Inland Transport Committee for 2012–2016 (ECE/TRANS/224, para. 94 and ECE/TRANS/2012/12, programme activity 02.4), the World Forum will develop, harmonize and update Regulations in order to enhance the performance of vehicles. The present document is submitted in conformity with that mandate.

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I. Proposal

Paragraph 5.2.3., amend to read:

"5.2.3. The rear parts of seats, **including parts mounted on the seats,** situated **as well** in area 1, defined in paragraph 6.8.1.1. ~~below~~, **as area 2, as defined in paragraph 6.8.1.2.,** shall pass the energy dissipation test in accordance with the requirements of Annex 6 to this Regulation."

Paragraph 5.2.4., amend to read:

"5.2.4. The surface of the rear parts of seats shall exhibit no dangerous roughness or sharp edges likely to increase the risk of severity of injury to the occupants. This requirement is considered as satisfied if the surface of the rear parts of seats tested in the conditions specified in paragraph 6.1. below exhibit radii of curvature not less than:

2.5 mm in area 1 **and area 2**,
~~5.0 mm in area 2,~~
3.2 mm in area 3.

These areas are defined in paragraph 6.8.1. below."

Paragraph 5.5.2., amend to read:

"5.2.3.2. The requirements of paragraph ~~5.1.3.~~ **5.2.3.** shall not apply to rearmost seats, to back-to-back seats or to seats that comply with the provisions of Regulation No. 21 "Uniform Provisions concerning the Approval of Vehicles with regard to their Interior Fittings" (E/ECE/324-E/ECE/TRANS/505/Rev.1/Add.20/Rev.2, as last amended)."

Paragraph 5.5.2., amend to read:

"5.5.2. Parts of the front ~~and rear faces~~ of the head restraints situated in area 1, as defined in paragraph 6.8.1.1.3. ~~below~~ shall pass the energy absorption test. **The rear of the head restraints situated as well in area 1, as defined in paragraph 6.8.1.1., as area 2, as defined in paragraph 6.8.1.2., shall pass the energy absorption test.**"

Paragraph 5.5.5., shall be deleted

II. Justification

1. According to recent vehicle safety developments (i.e. Euro New Car Assessment Program) to improve restraint systems, load limiters devices fitted on safety-belts allow forward displacements of occupants at significantly lower threshold values.

2. Thus far, the provisions of UN Regulation No. 16 (para. 6.4.1.4.1.) cannot be changed to allow a closer contact of the test dummy with the steering assembly, provided that this contact fulfils certain energy absorption test requirements and does not occur at a speed higher than 24 km/h.

3. For safety-belts of seating positions other than front facing, the above requirements have yet to be provided. This proposal provides the provisions on all seating positions.

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* *Note by the secretariat*: the text need further clarification.

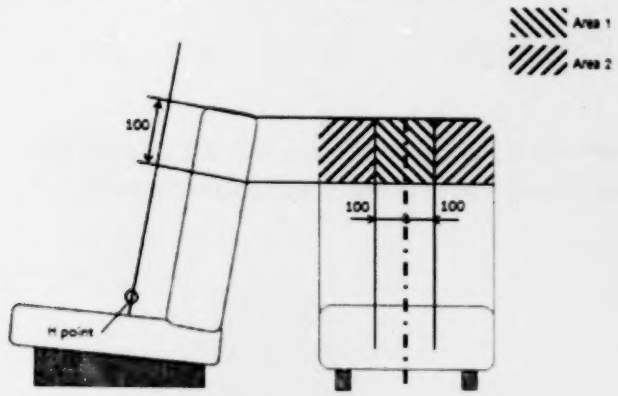
4. To cope with a wider forward displacement of the occupants, UN Regulation No. 17 should provide requirements concerning good energy absorption criteria for those areas of seat backs where the head of the rear occupant is to be impacted.

5. So far **only** Area 1 of impact, of the back seat is subject to energy absorption criteria. However, if Regulation No.16 allowed a broader forward displacement and therefore more possibilities of contact with rigid parts in front of the test dummy, then it would be necessary to also involve Area 2 of impact.

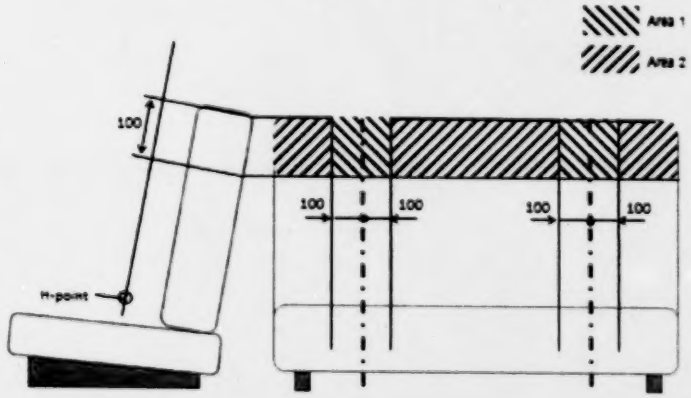
6. Area 1 is rather small to be tested. Figures of Area 1 and Area 2 for different seat configurations are indicated below to give a clearer view of the scope of the current proposal.

7. The proposed amendment to paragraph 5.2.3.2. is an editorial correction.

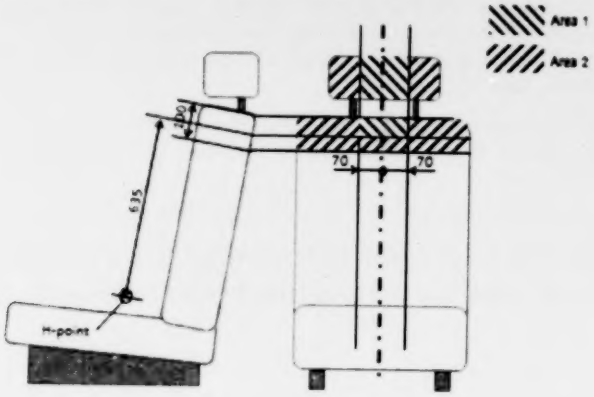
Reg.17, par. 6.8.1.1.1.(Area 1) + par. 6.8.1.2.1.(Area 2): In the case of separate seats without head restraints



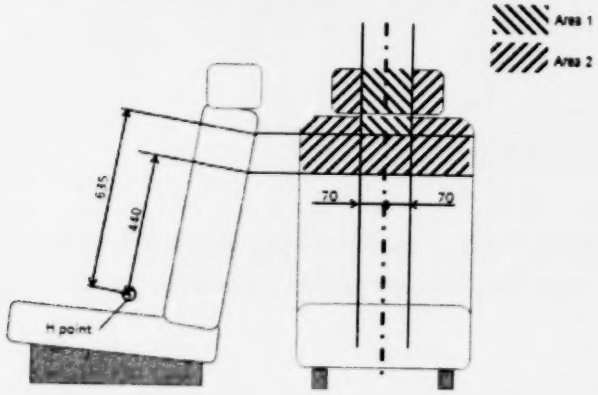
Reg.17, par. 6.8.1.1.2. (Area 1) + par. 6.8.1.2.1. (Area 2): In the case of bench seats without head restraints



Reg.17, par. 6.8.1.1.3. (Area 1) + par. 6.8.1.2.1. (Area 2):
In the case of seats with head restraints



Reg.17, par. 6.8.1.1.3.(Area 1) + par. 6.8.1.2.2.(Area 2):
In the case of seats with integrated head restraints



Source of seat drawings: tass international (*tno automotive safety solutions*) - Helmond